

## What is claimed is:

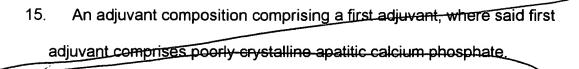
 An adjuvant composition comprising a first adjuvant, where said first adjuvant comprises amorphous calcium phosphate.

- 2. A composition of claim 1, further comprising particles of said first adjuvant.
- 3. A composition of claim 2, wherein said particles have a diameter between 0.1 nm and 900 nm
- 4. A composition of claim 3, wherein 1,400% by weight of said composition consists of said particles having a diameter between 0.1 nm and 900 nm.
- 5. A composition of claim 4, wherein 25-100% by weight of said composition consists of said particles having a diameter between 0.1 nm and 900 nm.
- 6. A composition of claim 1, wherein said first adjuvant is strongly resorbable.
- A composition of claim 1, formulated as an injectable paste.
- 8. A composition of claim 1 further comprising a second adjuvant.



A composition of claim 8, wherein said second adjuvant is selected from: muramyl dipeptide, aluminum hydroxide, aluminum phosphate, hydroxyapatite, Incomplete Freund's Adjuvant, Complete Freund's Adjuvant and polymers.

- 10. A composition of claim 1 further comprising an antigen.
- 11. A composition of claim 1 further comprising a cytokine.
- 12. A composition of claim 11, wherein said cytokine is selected from: IL-2, IL-3, IL-4, IL-5, IL-6, IL-7, IL-9, IL-11, IL-13, G-CSF, IL-15, GM-CSF, OSM, LIF, IFN-γ, IFN-α, IFN-β, B7.1, B7.2, TNF-α, TNF-β, LT-β, CD40 ligand, Fas ligand, CD27 ligand, CD30 ligand, 4-1BBL, IL-8, MCP-1, MIP-α, MIP-β, RANTES, TGF-β, IL-1α, IL-1β, IL-1 RA, IL-10, IL-12, and MIF.
- 13. A method for stimulating an immune response in a mammal, said method comprising administering to the mammal a composition comprising amorphous calcium phosphate.
- 14. A method for increasing immunogenicity of an antigen in a mammal, said method comprising co-administering both the antigen a composition comprising amorphous calcium phosphate.



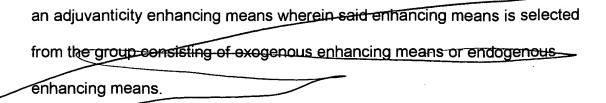
- 16. A composition of claim 15, further comprising particles of said first adjuvant.
- 17. A composition of claim 16, wherein said particles have a diameter between 0.1 nm and 900 nm.
- 18. A composition of claim 15, wherein 25-100% by weight of said composition consists of said particles having a diameter between 0.1 nm and 900 nm.
- 19. A composition of claim 15, wherein said first adjuvant is strongly resorbable.
- 20. A composition of claim 15, formulated as an injectable paste.
- 21. A composition of claim 15 further comprising a second adjuvant.

2. A composition of claim 21, wherein said second adjuvant is selected from: muramyl dipeptide, aluminum hydroxide, aluminum phosphate,



hydroxyapatite, Incomplete Freund's Adjuvant, Complete Freund's Adjuvant and polymers.

- 23. A composition of claim 15 further comprising an antigen.
- 24. A composition of claim 15 further comprising a cytokine.
- 25. A composition of claim 24, wherein said cytokine is selected from: IL-2, IL-3, IL-4, IL-5, IL-6, IL-7, IL-9, IL-11, IL-13, G-CSF, IL-15, GM-CSF, OSM, LIF, IFN-γ, IFN-α, IFN-β, B7 1, B7.2, TNF-α, TNF-β, LT-β, CD40 ligand, Fas ligand, CD27 ligand, CD30 ligand, 4-1BBL, IL-8, MCP-1, MIP-α, MIP-β, RANTES, TGF-β, IL-1α, IL-1β, IL-1 RA, IL-10, IL-12, and MIF.
- 26. A method for stimulating an immune response in a mammal, said method comprising administering to the mammal a composition comprising poorly crystalline apatitic calcium phosphate.
- 27. A method for increasing immunogenicity of an antigen in a mammal, said method comprising co-administering both the antigen a composition comprising poorly crystalline apatitic calcium phosphate.
- 28. An adjuvant composition comprising
  a first adjuvant, where said first adjuvant comprises calcium phosphate; and



- 29. A composition of claim 28, further comprising particles of said first adjuvant.
- 30. A composition of claim 28, wherein said first adjuvant is strongly resorbable.
- 31. A composition of claim 28, formulated as an injectable paste.
- 32. A composition of claim 28, wherein said adjuvanticity enhancing means is a second adjuvant.
- 33. A composition of claim 32, wherein said second adjuvant is selected from:

  muramyl dipeptide, aluminum hydroxide, aluminum phosphate,

  hydroxyapatite, Incomplete Freund's Adjuvant, Complete Freund's Adjuvant

  and polymers.
- 34. A composition of claim 28 further comprising an antigen.

- 35. A composition of claim 28, wherein said adjuvanticity enhancing means is a cytokine.
- 36. A composition of claim 35, wherein said cytokine is selected from: IL-2, IL-3, IL-4, IL-5, IL-6, IL-7, IL-9, L-11, IL-13, G-CSF, IL-15, GM-CSF, OSM, LIF, IFN-γ, IFN-α, IFN-β, B7.1, B7.2, TNP-α, TNF-β, LT-β, CD40 ligand, Fas ligand, CD27 ligand, CD30 ligand, 4-1BBL, IL-8, MCP-1, MIP-α, MIP-β, RANTES, TGF-β, IL-1α, IL-1β, IL-1 RA, IL-10, IL-12, and MIF.
- 37. A method for stimulating an immune response in a mammal, said method comprising administering to the mammal a composition comprising calcium phosphate and an adjuvanticity enhancing means.

200 /